

Agricultural Meteorology

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6-15-59

Card 8/8

VALENTINOV, G. I.

... of the ... of the ... of ...
by ... of ...

(11:18:10)

VENTSKEVICH, L.A., red.

[Cranes used in construction and assembly] Stroitel'no-montazhnye krany; spravochnoe posobie. Moskva, TSentr. biuro tekhn. informatsii. No.3. [Hoists and lifts used in assembly] Montazhnye pod'emniki i vyshki... 1962. 70 p.

(MIRA 16:4)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva. Upravleniye mekhanizatsii spetsial'nykh i montazhnykh rabot. TSentral'noye konstruktorskoye byuro.
(Hoisting machinery)

BOBORYKIN, Ye.P., red.; SARYCHEV, I.I., red.; FRADKIN, S.D., red.;
SHAKIROV, R.A., red.; LISOGOR, A.A., red.; VENTSKEVICH,
L.A., red.

[Technological information and propaganda at construction
projects in Russia] Tekhnicheskaya informatsiya i propaganda
na stroikakh Rossi; sbornik statei. Moskva, TSentr. biuro
tekhn. informatsii, 1962. 106 p. (MIRA 16:7)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po
delam stroitel'stva.
(Construction industry—Technological innovations)

VENTSEKEVICH, V. Z.

Head Physician, Bryansk Provincial Hospital

"Surgical therapy of cancer of the cardia and the lower portion of the esophagus," by
N.M. Amosov, Vest. khir. 72 no. 4 J1-Ag 1952.

VENTSKEVICH, Yuriy Antonovich

[Safety manual for workers engaged in the manufacture
of strip-type parts] Pamiatka po tekhnike bezopasnosti
dlia rabochikh, zaniatykh izgotovleniem pogonazhnykh
izdelii. Moskva, Stroiizdat, 1965. 13 p. (MIRA 18:10)

20311

16.6100

16.2800

AUTHOR: Ventsel', A.D.

S/020/61/137/001/001/021
C111/C222

TITLE: Non-negative additive functionals of Markov processes

PERIODICAL: Akademii nauk SSSR. Doklady, v. 137, no. 1, 1961, 17 - 20

TEXT: The notations are the same as in the papers by Ye.B. Dynkin (Ref.1 : UMN, 15, no. 2, 3 (1960) ; Ref. 2 : Osnovaniya teorii markovskikh protsessov [Foundations of the Theory of Markov processes], 1959).

Let $X = (x_t, \xi, \mathcal{H}_t, P_x, \theta_t)$ be a homogeneous Markov process. A non-negative additive homogeneous functional of X means the function $\varphi_t^s(\omega)$ of the elementary event ω and $0 \leq s \leq t \leq \infty$ which satisfies the following conditions :

A. φ_t^s is ω -measurable with respect to the \mathcal{G} -algebra generated by the events $\{x_n \in \Gamma\}$, $0 \leq u \leq t$. There exists a set N with a P_x -measure 0 so that for $\omega \notin N$ the following conditions are satisfied :

B. $\varphi_t^s + \varphi_t^u = \varphi_t^s$

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C. $\varphi_{t+h}^{s+h} = \theta_h \varphi_t^s$

D. $0 \leq \varphi_t^s \leq \infty$

E. φ_t^s is continuous from the right side with respect to t .

If φ_t^s is continuous from the right side with respect to s too then

$$f(x) = M_x \varphi_\infty^0 \quad (1)$$

is an excessive function, i.e. $f(x) \geq 0$, $T_t f(x) \equiv M_x f(x_t) \leq f(x)$, $T_t f(x) \rightarrow f(x)$ ($t \rightarrow 0$). (1) is called a representation by a generalized potential. The excessive function $f(x)$ is called purely excessive if $T_t f(x) \rightarrow 0$ ($t \rightarrow \infty$). The author considers only Markov standard processes (cf. (Ref. 4 : V.A. Volkonskiy, Tr. Mosk. matem. obshch. 9, 143(1960))).

Theorem 1 : Let the process X be so that every bounded purely excessive function is representable by a generalized potential, where the corresponding functional is given by

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$$\varphi_t^s = \lim_{h \rightarrow 0} \int_s^t \frac{f(x_u) - T_h f(x_u)}{h} du. \quad (2)$$

Then for the fact that a finite excessive function f is representable by a generalized potential it is necessary and sufficient that

$$M_x f(x, \tau_{\{f > n\}}) \rightarrow 0 \quad (n \rightarrow \infty) \quad (3)$$

holds for all x . Here $\tau_{\{f > n\}}$ is the moment of the first reach of the set $\{x : f(x) > n\}$; the function below the sign of the mathematical expectation equals zero if the process does not reach this set.

The theorems 2 and 3 are defined for three-dimensional Wiener processes.

Theorem 2 : In order that an excessive function $f(x) \neq \infty$ given by

$$f(x) = \int \frac{1}{|x - y|} \mu(dy) \quad (4)$$

where $|x - y|$ is the distance between x and y , μ - - measure in the Card 3/5

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three-dimensional space, is representable by a generalized potential it is necessary and sufficient that the measure μ equals zero for every set of the capacity zero. It is also sufficient that only $\mu \{ f = \infty \} = 0$.

Theorem 3 : There exists a one - to - one relation between finite functionals of the three-dimensional Wiener process for which $\varphi_{\infty}^s = \lim_{t \rightarrow \infty} \varphi_t^s$, and such measures μ in the three-dimensional space that

there exists an increasing sequence of closed sets F_n which fills the whole space and for which $\int_{F_n} \frac{1}{|x - y|} \mu(dy) < C_n < \infty$, and that with

the probability 1 there exists an n so that $x_t \in F_n$ ($0 \leq t < \infty$). The connection between functional and measure is as follows: for every non-negative Borel function $g(y)$ it holds

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$$M_x \int_0^\infty g(x_n) \varphi(du) = \int \frac{g(y)}{|x-y|} \mu(dy) .$$

Functionals φ_t^s being finite for $s, t \in [0, \infty)$, $(0, \infty]$, $(0, \infty)$ with the probability 1 are also in a one-to-one relation with corresponding classes of measures.

The author mentions V.A. Volkonskiy.

There are 3 Soviet-bloc and 3 non-Soviet-bloc references. The two references to the English-language publications read as follows: G.A. Hunt, Illinois J. Math. 1, 44 (1957); T. Radó, Subharmonic Functions, Berlin, 1937. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

PRESENTED: November 18, 1960, by A.N. Kolmogorov, Academician

SUBMITTED: November 14, 1960

Card 5/5

16(1), 16(2)

AUTHOR: Ventsel', A.D.

SOV/52-4-2-4/13

TITLE: On Lateral Conditions for Multi-Dimensional Diffusion Processes

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1959, Vol 4, Nr 2, pp 172-185 (USSR)

ABSTRACT: Let K be a closed bounded domain in the n -dimensional Euclidean space. Let the boundary Γ of K be sufficiently smooth. Let C be the Banach space of functions continuous on K with the norm $\|f\| = \max_{x \in K} |f(x)|$; let \mathcal{A} be an elliptic differential operator of second order in K . The author seeks the most general lateral conditions which restrict \mathcal{A} to an infinitesimal operator of a timely homogeneous Markov process in K satisfying the condition of Feller. Processes the infinitesimal operators of which are restrictions of the closure of an elliptic operator are called diffusion processes. The author solves the given problem for the case that K is a circle or a sphere and the process invariant with respect to the rotation. In the general case the author obtains partial results. 5 theorems and 5 lemmas are given. There are 8 references, 4 of which are Soviet, 3 American, and 1 Japanese.

SUBMITTED: November 24, 1958
Card 1/1

ACC NRI AP6030434

SOURCE CODE: UR/0420/66/000/006/0072/0077

AUTHOR: Ventsel', E. S.

31

ORG: None

B

TITLE: Axisymmetric contact problem on the connection between a circular cylindrical shell and an elastic plate

SOURCE: ²⁴ Samoletostroyeniye i tekhnika vozdushnogo flota, no. 6, 1966, 72-77

TOPIC TAGS: mechanics, stress analysis, contact stress, shell theory, cylindric shell structure, *ELASTIC PLATE*

ABSTRACT: The author considers the axisymmetric problem of joints between circular cylindrical shells and thin elastic plates in the elastic stage. A general equation is given for bending of the shell under the effect of an arbitrary axisymmetric load and for uniformly distributed and varying loads. Expressions are derived for determining displacement of the contact line of the shell and the plate and an example is given showing application of the method to a circular cylindrical shell with a hinged support connected to a thin elastic plate. It is found that the shell is relieved by the thin elastic plate which takes on part of the load applied to the shell. Orig. art. has: 3 figures, 1 table, 23 formulas.

SUB CODE: 20/ SUBM DATE: none

Card 1/1 *egh*

SOV/137-58-9-19598

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 210 (USSR)

AUTHORS: Fedot'yev, N.P., Grilikhes, S.Ya., Foroponova, N.L.,
Yu-Chen-Dya, Ventsel', I.

TITLE: Ornamental Finishing of Aluminum (Dekorativnaya otdelka
alyuminiya)

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1957, Nr 43,
pp 38-42

ABSTRACT: A method for ornamental finishing of Al by means of its
electrochemical oxidation followed by adsorption coloring of
the oxide film is described. The operations of the industrial
process of coloring Al golden are examined. The importance of
conducting the chemical and electrochemical polishing of the
metal before the oxidation and the correct selection of the color-
ing agents is emphasized. The compositions of solutions for the
chemical and electrochemical polishing, the working conditions,
and the comparative characteristics of the operation are adduced.
Mixtures of alizarin red and mordant true yellow is recom-
mended for the coloring. Depending upon the ratio of their con-
centrations in the solution it is possible to tint the oxide films
the color of pure gold and of its alloys with Cu and Ag. R.S.
1. Aluminum--Processing 2. Aluminum--Oxidation 3. Aluminum--Color
4. Copper--Applications 5. Silver--Applications

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VENISEL, M.K.

807/6-59-7-35/5

3(2). 3(4)
AUTHOR:

None Given

TITLE:

Chronicle (Chronika)

SYNOPSIS:

Geodesiya i kartografiya, 1959. Br. 7. P. 86 (USSR)

ABSTRACT:

From May 27 to June 1, a conference dedicated to the history of natural science and technology took place in Moscow. It was organized by the Institute of History of Natural Science and Technology of the Academy of Sciences of the USSR and the Sovetskoye national'noye obshchestvennoye istoricheskoye nauchnoye i tekhnicheskoye izdatel'stvo. The following reports were delivered at the meetings of the Section of Geologic-Geographic Sciences: S. Ye. Fel', "Russia's Cartography in the 18th Century"; S. G. Yermayev, "Topographic Map of Armenia Compiled at the End of the 6th and Beginning of the 7th Century"; A. E. Ponomarev, "Application and Development of Statistical Methods in Cartography"; A. S. Gushchinskii, "History of the Application of the Method of Least Squares in Geodesy"; M. K. Venisele, "Development of Accurate Methods of Astronomic Determinations

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in the USSR"; V. I. Kuznetsov, "Development of Light Location (Photogrammetry) in the USSR"; A. E. Ponomarev, "Development of Electronic Methods in Photogrammetry"; K. V. Zhelezovskii, "History of the Building of Photogrammetric Apparatus in the Soviet Union".

Card 2/2

VEITSEL', M.K., doktor tekhn.nauk, prof.

Astronomy at the Moscow Geodetic Institute; from the history of
practical field astronomy in Russia. Trudy MIIGAIK no.35:67-96
'59. (MIRA 13:5)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i
kartografii, kafedra astronomii.
(Astronomy, Spherical and practical)

V. V. V. V., Mikhail Konstantinovich, 1927-

Interpolation; chapter from a course in "Spherical Astronomy" of the 3rd year at the Geodetic Department of the Moscow Mezhev Institute. Moskva, Izd. studentov M.M.I., 1927. 31 p.

Cyr.4 QA65

SOV/124-57-5-6069

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 149 (USSR)

AUTHOR: Ventsel', N. A.

TITLE: How the Stability of a Composite Bar Assembly Is Affected by the Mode of Constraint Employed (Vliyaniye usloviy zakrepleniya na ustoychivost' sterzhnevnykh naborov)

PERIODICAL: V sb.: Issledovaniya po vopr. ustoychivosti i prochnosti. Kiyev, AN UkrSSR, 1956, pp 113-122

ABSTRACT: The author uses the method of finite differences to solve the problem of the stability of a composite bar assembly comprised of two systems of rectilinear, mutually perpendicular, bars; each bar in each system is elastically constrained at both ends, each end of each bar being fastened to a fixed support; the two sets of supports for each bar system are discretely spaced in rectangular patterns. The dimensions and elastic properties of all the bars in each system are identical, such that when buckling occurs through the action of two systems of compressive forces the junction points may undergo displacement only in a direction that is perpendicular to the original plane of the assembly, i. e., to the plane that it occupied before buckling. Graphs are included to facilitate calculation.

A. M. Pen'kov

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CHIT, V. I.

"Effect of Conditions of Chain and Fastening on the Stability of Chain Knots."
Dokl. Akad. Nauk SSSR, Ser. Tekh. Nauk, 1963, No. 1. (Russian)
(Referativnyi Zhurnal--Mechanika Moscow, 1963)

See: SUI 186, 12 Aug 1964

VENTSEL', N.A.

Stability of plane rod sets with rigid contour fastening. Sbor.
trud. Inst. stroi. mekh. AN URSR no.15:81-92 '51. (MIRA 11:4)
(Elastic solids)

VENTSEL', N.A. [Ventsel', N.O.]; AGAREV, V.A. [Ahar'ov, V.A.]

Applying the method of initial functions to the determination of
flexural vibrations of rectangular plates. Dop. AN URSR no. 11:1485-
1491 '60. (MIRA 13:11)

1. Kiyevskiy politekhnicheskii institut. Predstavleno akademikom
AN USSR G.N. Savinym.

(Elastic plates and shells--Vibration)

AGAREV, V.A. [Ahar'ov, V.A.] (Kiyev); VENTSEL', N.A. [Ventsel', N.O.]
(Kiyev); CHERNYI, N.N. [Chornyi, M.M.] (Kiyev)

General solution of the problem of the bending of a plate in polar
coordinates. Prykl.mekh. 7 no.5:521-529 '61. (MIRA 14 10)

1. Kiyevskiy politekhnicheskii institut.
(Elastic plates and shells)

29228

24.4226 1108.2607.1327

S/198/61/007/005/008/015
D274/D303

AUTHORS: Ahar'ov, V.A., Ventsel', N.O., and Chornyy, M.M.
(Kyyiv)

TITLE: On the general solution, in polar coordinates, of
the problem of plate bending

PERIODICAL: Prykladnaya mekhanika, v. 7, no. 5, 1961, 521 - 529

TEXT: In solving, by the method of initial functions, concrete
problems of bending of sectorial circular plates, the calculations
can be considerably simplified by taking as the initial line, one
of the radial boundaries of the plate. The general solution of
this problem is considered. The dimensionless radial coordinate

$$\xi = \frac{1}{\lambda} \ln \frac{r}{r_1}, \quad \lambda = \ln \frac{r_2}{r_1} \quad (1)$$

is introduced; the bending is denoted by w , the angle of rotation
of the normal - by θ , the bending moments - by M , the torsion mo-

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On the general solution, in ...

ments - by $M_{r\theta}$, the reduced transverse stresses - by V , and the reaction - by R . The radial boundary $\theta = 0$ is taken as the initial line. The complete system of equations which describe the bending, is written in polar coordinates. Further, the canonical equations of the method of initial functions are set up. In this system,

$$L_{sj} = L_{sj}(\alpha, \theta) \quad \begin{cases} s = w, \vartheta_r, \vartheta, M_r, M, V_r, V, R; \\ j = w, \vartheta, M, V \end{cases} \quad (11)$$

are operators which have to be determined. For that purpose, three groups of equations are set up. It is found that these operators ought to satisfy conditions:

$$L_{sj}(\alpha, 0) = \begin{cases} 1, & \text{if } j = s \\ 0, & \text{if } j \neq s \end{cases} \quad (17)$$

($s, j = w, \vartheta, M, V$). The expressions for the operators are found in the form of eight formulas

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On the general solution, in ...

$$L_{ww} = \left[1 - \frac{(1-\mu)\alpha(\alpha-\lambda)}{2\lambda(\alpha-2\lambda)} \right] \cos \eta \alpha + \frac{(1-\mu)\alpha(\alpha-\lambda)}{2\lambda(\alpha-2\lambda)} \cos \eta (\alpha - 2\lambda),$$

$$L_{w\delta} = \frac{1}{4} [(1-\mu)\alpha + 2(1+\mu)\lambda] \frac{\sin \eta \alpha}{\alpha} - \frac{1-\mu}{4} \sin \eta (\alpha - 2\lambda),$$

$$L_{wM} = \frac{1}{2\lambda(\alpha-2\lambda)} [\cos \eta (\alpha - 2\lambda) - \cos \eta \alpha], \quad (18)$$

$$L_{wV} = \frac{1}{4(\alpha-\lambda)} \left[\frac{\sin \eta (\alpha - 2\lambda)}{\alpha - 2\lambda} - \frac{\sin \eta \alpha}{\alpha} \right];$$

$$L_{\delta,w} = \left[1 - \frac{(1-\mu)\alpha(\alpha-\lambda)}{2\lambda(\alpha-2\lambda)} \right] \alpha \cos \eta \alpha + \frac{(1-\mu)\alpha^2(\alpha-\lambda)}{2\lambda(\alpha-2\lambda)} \cos \eta (\alpha - 2\lambda),$$

$$L_{\delta,\delta} = \frac{1}{4} [(1-\mu)\alpha + 2(1+\mu)\lambda] \sin \eta \alpha - \frac{1-\mu}{4} \alpha \sin \eta (\alpha - 2\lambda),$$

$$L_{\delta,M} = \frac{\alpha}{2\lambda(\alpha-2\lambda)} [\cos \eta (\alpha - 2\lambda) - \cos \eta \alpha], \quad (19) \quad \chi$$

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On the general solution, in ...

$$L_{0,v} = \frac{\alpha}{4\lambda(\alpha - \lambda)} \left[\frac{\sin \eta(\alpha - 2\lambda)}{\alpha - 2\lambda} - \frac{\sin \eta \alpha}{\alpha} \right];$$

$$L_{0w} = \frac{(1 - \mu)\alpha^2 - (3 - \mu)\lambda\alpha + 4\lambda^2}{2\lambda^2(\alpha - 2\lambda)} \alpha \sin \eta \alpha - \frac{1 - \mu}{2\lambda^2} \alpha(\alpha - \lambda) \sin \eta(\alpha - 2\lambda),$$

$$L_{0\theta} = \frac{1}{4\lambda} [(1 - \mu)\alpha + 2(1 + \mu)\lambda] \cos \eta \alpha - \frac{1 - \mu}{4\lambda} (\alpha - 2\lambda) \cos \eta(\alpha - 2\lambda),$$

$$L_{0M} = \frac{1}{2\lambda^2(\alpha - 2\lambda)} [\alpha \sin \eta \alpha - (\alpha - 2\lambda) \sin \eta(\alpha - 2\lambda)], \quad (20)$$

$$L_{0V} = \frac{1}{4\lambda(\alpha - \lambda)} [\cos \eta(\alpha - 2\lambda) - \cos \eta \alpha];$$

$$L_{M,w} = \frac{1 - \mu}{2\lambda} \frac{\alpha(\alpha - \lambda)}{\alpha - 2\lambda} \{ [- (1 - \mu)\alpha^2 + (3 - \mu)\lambda\alpha - 4\lambda^2] \cos \eta \alpha + \\ + (\alpha - \lambda) [(1 - \mu)\alpha + 4\mu\lambda] \cos \eta(\alpha - 2\lambda) \},$$

$$L_{M,\theta} = \frac{1 - \mu}{4} (\alpha - \lambda) \{ [(1 - \mu)\alpha + 2(1 + \mu)\lambda] \sin \eta \alpha - [(1 - \mu)\alpha + \\ + 4\mu\lambda] \sin \eta(\alpha - 2\lambda) \},$$

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$$L_{M,M} = \frac{\alpha - \lambda}{2\lambda(\alpha - 2\lambda)} \{-(1 - \mu)\alpha \cos \eta \alpha + [(1 - \mu)\alpha + 4\mu\lambda] \cos \eta (\alpha - 2\lambda)\}, \quad (21)$$

$$L_{M,V} = \frac{1}{4} \{[(1 - \mu)\alpha + 4\mu\lambda] \frac{\sin \eta (\alpha - 2\lambda)}{\alpha - 2\lambda} - \frac{1 - \mu}{4} \sin \eta \alpha;$$

$$L_{M,w} = \frac{(1 - \mu)\alpha(\alpha - \lambda)}{2\lambda(\alpha - 2\lambda)} \{[(1 - \mu)\alpha^2 - (3 - \mu)\lambda\alpha + 4\lambda^2] \cos \eta \alpha -$$

$$- (\alpha - \lambda) [(1 - \mu)\alpha - 4\lambda] \cos \eta (\alpha - 2\lambda)\},$$

$$L_{M,3} = -\frac{1 - \mu}{4} (\alpha - \lambda) \{[(1 - \mu)\alpha + 2(1 + \mu)\lambda] \sin \eta \alpha - [(1 - \mu)\alpha -$$

$$- 4\lambda] \sin \eta (\alpha - 2\lambda)\},$$

$$L_{M,M} = \frac{\alpha - \lambda}{2\lambda(\alpha - 2\lambda)} \{[(1 - \mu)\alpha \cos \eta \alpha - [(1 - \mu)\alpha - 4\lambda] \cos \eta (\alpha - 2\lambda)\}, \quad (22)$$

$$L_{M,V} = \frac{1 - \mu}{4} \sin \eta \alpha - \frac{1}{4} [(1 - \mu)\alpha - 4\lambda] \frac{\sin \eta (\alpha - 2\lambda)}{\alpha - 2\lambda};$$

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On the general solution, in ...

$$L_{V,w} = \frac{1-\mu}{2\lambda} \frac{a(a-\lambda)}{a-2\lambda} \{[(1-\mu)\alpha^2 - (3-\mu)\lambda\alpha + 4\lambda^2]\alpha \cos \eta\alpha -$$

$$- [(1-\mu)\alpha - 2(3-\mu)\lambda](\alpha-\lambda)(\alpha-2\lambda) \cos \eta(\alpha-2\lambda)\},$$

$$L_{V,\theta} = -\frac{1-\mu}{4} (\alpha-\lambda) \{[(1-\mu)\alpha + 2(1+\mu)\lambda]\alpha \sin \eta\alpha - [(1-\mu)\alpha -$$

$$- 2(3-\mu)\lambda](\alpha-2\lambda) \sin \eta(\alpha-2\lambda)\},$$

$$L_{V,M} = \frac{\alpha-\lambda}{2\lambda} \left\{ \frac{(1-\mu)\alpha^2}{\alpha-2\lambda} \cos \eta\alpha - [(1-\mu)\alpha - 2(3-\mu)\lambda] \cos \eta(\alpha-2\lambda) \right\}, \quad (23)$$

$$L_{V,V} = \frac{1-\mu}{4} \alpha \sin \eta\alpha - \frac{1}{4} [(1-\mu)\alpha - 2(3-\mu)\lambda] \sin \eta(\alpha-2\lambda);$$

$$L_{V,w} = \frac{1-\mu}{2\lambda^2} \alpha(\alpha-\lambda) \{[(1-\mu)\alpha^2 - (3-\mu)\lambda\alpha + 4\lambda^2] \sin \eta\alpha -$$

$$- (\alpha-\lambda)[(1-\mu)\alpha + 2(1+\mu)\lambda] \sin \eta(\alpha-2\lambda)\},$$

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3/198/61/007/005/008/015
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On the general solution, in ...

$$L_{V\theta} = \frac{1-\mu}{4\lambda} (\alpha - \lambda)(\alpha - 2\lambda) [(1-\mu)\alpha + 2(1+\mu)\lambda] [\cos \eta \alpha - \cos \eta (\alpha - 2\lambda)], \quad (24)$$

$$L_{VM} = \frac{\alpha - \lambda}{2\lambda^2} \{ (1-\mu)\alpha \sin \eta \alpha - [(1-\mu)\alpha + 2(1+\mu)\lambda] \sin \eta (\alpha - 2\lambda) \},$$

$$L_{VV} = -\frac{1-\mu}{4\lambda} (\alpha - 2\lambda) \cos \eta \alpha + \frac{1}{4\lambda} [(1-\mu)\alpha + 2(1+\mu)\lambda] \cos \eta (\alpha - 2\lambda),$$

$$L_{RW} = \frac{\alpha(\alpha - \lambda)}{2\lambda^2} \left\{ \frac{(1-\mu)\alpha^2 - (3-\mu)\lambda\alpha + 4\lambda^2}{\alpha - 2\lambda} \sin \eta \alpha - (1-\mu)(\alpha - \lambda) \sin \eta (\alpha - 2\lambda) \right\},$$

$$L_{Rr} = \frac{1}{4\lambda} (\alpha - \lambda) \{ [(1-\mu)\alpha + 2(1+\mu)\lambda] \cos \eta \alpha - (1+\mu)(\alpha - 2\lambda) \cos \eta (\alpha - 2\lambda) \},$$

$$\text{Card 7/10} \quad L_{RM} = \frac{\alpha - \lambda}{2\lambda^2 (\alpha - 2\lambda)} [\alpha \sin \eta \alpha - (\alpha - 2\lambda) \sin \eta (\alpha - 2\lambda)], \quad X$$

On the general solution, in ...

25228
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D274/D303

$$L_{RV} = -\frac{1}{4\lambda} [\cos \eta \alpha - \cos \eta (\alpha - 2\lambda)]. \quad (25)$$

The obtained equations yield the sought-for general solution of the problem. If the plate contour can be described by sufficiently smooth functions, concrete problems can be solved by a method proposed by V.A. Ahar'ov in an earlier article. For hinged radial edges of the plate, this method yields

$$w_0 = 0; \quad M_0 = 0;$$

$$\theta_0 = -L_{wV}(\theta_0, \alpha) \varphi(\xi); \quad V_0 = L_{w\theta}(\theta_0, \alpha) \varphi(\xi) - \frac{1}{L_{wV}(\theta_0, \alpha)} w_p(\xi, \theta_0); \quad (27)$$

$$\frac{\sin \eta_0 \alpha}{\alpha} \frac{\sin \eta_0 (\alpha - 2\lambda)}{\alpha - 2\lambda} \varphi(\xi) = \frac{1}{\lambda^2} \left[\frac{L_{wV}(\theta_0, \alpha)}{L_{wV}(\theta_0, \alpha)} w_p(\xi, \theta_0) - M_{\theta p}(\xi, \theta_0) \right] \quad (28)$$

and for rigidly clamped edges:

$$w_0 = 0; \quad \theta_0 = 0;$$

$$M_0 = L_{wV}(\theta_0, \alpha) \varphi(\xi); \quad V_0 = -L_{wM}(\theta_0, \alpha) \varphi(\xi) - \frac{1}{L_{wV}(\theta_0, \alpha)} w_p(\xi, \theta_0); \quad (29)$$

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$$[\alpha(\alpha - 2\lambda) - \lambda^2 \cos 2\eta_0 - (\alpha^2 - 2\lambda\alpha - \lambda^2) \cos 2\eta_0 (\alpha - \lambda)] \frac{1}{\alpha(\alpha - 2\lambda)} \psi(\xi) \quad (29)$$

$$= 8\lambda^2 \left[\frac{L_M(\theta_0, \alpha)}{L_{w1}(\theta_0, \alpha)} w_p(\xi, \theta_0) - \psi_p(\xi, \theta_0) \right] \quad (30)$$

A particular solution for w_p is found

$$w_p(\xi, \theta) = -\frac{r^3 \lambda^2}{4} \int_0^{\theta} d\tau \int_{\xi - i\frac{\theta - \tau}{\lambda}}^{\xi + i\frac{\theta - \tau}{\lambda}} e^{2\lambda \zeta} d\zeta \int_0^{\tau} d\tau' \int_{\xi - i\frac{\tau - \tau'}{\lambda}}^{\xi + i\frac{\tau - \tau'}{\lambda}} e^{2\lambda \zeta'} p(\zeta', \tau') d\zeta' \quad (38)$$

Further, several questions related to the use of the method of initial functions, are considered. It is noted that the transcendental operators (18) - (25) are interpreted as a shortened form of differential operators of infinite order. Such an interpretation

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SECRET

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imposes considerable restrictions on the initial functions: their unlimited differentiability is required. In certain cases it is possible to use the apparatus of generalized functions or to express the operators L in the form of integral- or functional operators. There are 3 figures and 7 Soviet-bloc references.

ASSOCIATION: Kyyivs'kyi politekhnichnyy instytut (Kyyiv Polytechnical Institute)

SUBMITTED: December 2, 1960

Card 10/10

26756
S/021/60/000/011/004/009
D204/D302

10.1500

AUTHORS: Ventsel', N.O., and Ahar'ov, V.A.

TITLE: Applying the method of initial functions to determining the frequency of flexural vibrations in rectangular plates

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 11, 1960, 1485 - 1491

TEXT: The free oscillations of a rectangular plate may be written

$$\frac{\partial^4 w}{\partial x^4} + 2 \frac{\partial^2 w}{\partial x^2 \partial y^2} + \frac{\partial^4 w}{\partial y^4} - \rho w = \frac{p}{D},$$

(1)

$$\theta_x = \frac{\partial w}{\partial x}, \quad \theta_y = \frac{\partial w}{\partial y},$$

$$M_x = -D \left(\frac{\partial^2 w}{\partial y^2} + \nu \frac{\partial^2 w}{\partial x^2} \right),$$

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D204/D302

$$\begin{aligned} M_y &= -D \left(\frac{\partial^2 w}{\partial x^2} + \mu \frac{\partial^2 w}{\partial y^2} \right), \\ V_x &= -D \left[\frac{\partial^3 w}{\partial x^3} + (2 - \mu) \frac{\partial^3 w}{\partial x \partial y^2} \right], \\ V_y &= -D \left[\frac{\partial^3 w}{\partial y^3} + (2 - \mu) \frac{\partial^3 w}{\partial x^2 \partial y} \right], \\ R &= 2M_{xy} = -2(1 - \mu) D \frac{\partial^2 w}{\partial x \partial y}, \end{aligned} \quad (1)$$

where $D = \frac{D_f^3}{12(1 - \mu^2)}$ is the cylindrical rigidity, $\nu = \frac{\gamma \omega^2}{gD}$ (2) is the oscillation parameter, and ω is the frequency. [Abstractor's note: Symbols not explained, see P.F. Papkovich (Ref.1: Stroitel'naya mekhanika korablya (Structural Mechanics of a Ship) ch. II, 1941)]. The system is solved by the method of initial functions.

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Applying the method of initial ...

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Dimensionless coordinates $\xi = x/a$, $\eta = y/a$ are taken from the initial line $x = 0$ and the equations are put in canonical form

$$w(\xi, \eta) = a(L_{ww}W_0 + L_{w\theta}\theta_0 + L_{wM}M_0 + L_{wV}V_0),$$

$$\theta_2(\xi, \eta) = L_{\theta_2 w}W_0 + L_{\theta_2 \theta}\theta_0 + L_{\theta_2 M}M_0 + L_{\theta_2 V}V_0,$$

$$\theta_1(\xi, \eta) = L_{\theta_1 w}W_0 + L_{\theta_1 \theta}\theta_0 + L_{\theta_1 M}M_0 + L_{\theta_1 V}V_0,$$

$$M_x(\xi, \eta) = -\frac{D}{a}(L_{M_x w}W_0 + L_{M_x \theta}\theta_0 + L_{M_x M}M_0 + L_{M_x V}V_0),$$

$$M_y(\xi, \eta) = -\frac{D}{a}(L_{M_y w}W_0 + L_{M_y \theta}\theta_0 + L_{M_y M}M_0 + L_{M_y V}V_0),$$

$$V_x(\xi, \eta) = -\frac{D}{a^2}(L_{V_x w}W_0 + L_{V_x \theta}\theta_0 + L_{V_x M}M_0 + L_{V_x V}V_0),$$

$$V_y(\xi, \eta) = -\frac{D}{a^2}(L_{V_y w}W_0 + L_{V_y \theta}\theta_0 + L_{V_y M}M_0 + L_{V_y V}V_0),$$

(3)

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$$R(\xi, \eta) = -2(1 - \mu) \frac{D}{a} (L_{R\omega} W_0 + L_{R\theta} \theta_0 + L_{RM} M_0 + L_{RV} V_0). \quad (3)$$

where

$$W_0 = W_0(\eta) = \frac{1}{a} \omega(0, \eta), \quad \theta_0 = \theta_0(\eta) = \theta_\mu(0, \eta), \quad (4)$$

$$M_0 = M_0(\eta) = -\frac{a}{D} M_\mu(0, \eta), \quad V_0 = V_0(\eta) = -\frac{a^2}{D} V_\mu(0, \eta)$$

Substitution in (1) gives a system of general differential equations for functional operators. Integration and the initial conditions

$$L_{sj} \Big|_{s=0} = \begin{cases} 1, & \text{if } s = j \\ 0, & \text{if } s \neq j \end{cases} \quad s, j = w, \theta, M, V$$

and substitution gives a series of equations which, together with

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D204/D302

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(3) give the general solution of (1) with arbitrary conditions on the edge of the rectangular plate. The boundary conditions on the initial line give two relationships between W_0 , t_0 , M_0 and V_0 , so that (3) are now dependent on two unknown initial functions. The boundary conditions on the edge of the plate parallel to the initial line gives a system of two homogeneous equations in these functions which give rise to one transcendental solvable equation, in terms of a function $\varphi(\eta)$. The method gives a sufficient number of arbitrary parameters for the exact or approximate satisfaction of the boundary conditions. The cases of symmetric, quasisymmetric and non-symmetric oscillations are worked out in detail. There are 6 figures and 4 Soviet-bloc references.

ASSOCIATION: Kyivsk'yy politekhnichnyy instytut (Kiyev Polytechnic Institute)

PRESENTED: by H.M. Savin, Academician of the AS UkrSSR

SUBMITTED: April 18, 1960

Card 5/5

131 AND 140 CIPHERS										PROCESSING AND PROPERTIES INDEX										141 AND 142 CIPHERS									
CA																				17									
<p>Preparing concentrates of Burrov solution. E. M. Natanson and P. Yu. Ventsel. <i>Farmatsiya</i> 4, No. 11/12, 27-31(1941).—A dry concentrate of basic Al acetate can be prepd. from Burrov soln. (which must be stabilised with H_2BO_3) by pptg. with 96% EtOH and drying the ppt. at room temp. Increasing the amt. of H_2BO_3 increases the rate of soln. of the powder; using more AcOH in the basic Al acetate has little influence on the product. The powder contains 30.7% Al_2O_3; when dissolved in water (wt. ratio 8:100) the pH of the resulting Burrov soln. is 3.71 to 3.92. Julian F. Smith</p>																													
<p>ADD-11 A METALLURGICAL LITERATURE CLASSIFICATION</p>																													
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JAN 1942										JAN 1942										JAN 1942									

TYUR, Rudol'f Al'bertovich; LUKIN, O.A., red.; VENTSEL', O.A.,
red.; VENTSEL', I.V., red.izd-va; BELOGUROVA, I.A., tekst.
red.

[Increasing the wear resistance of machine parts by metal
spraying using high frequency currents] Povyshenie iznoso-
stoikosti detalei mashin sposobom metallizatsii napyleniem
s primeneniem tokov vysokoi chastoty. Leningrad, 1963. 17 p.
(Leningradskii dom nauchno-tehnicheskoi propagandy. Obmen
peredovym opytom. Seriya: Mekhanicheskaiia obrabotka metallov,
no.14) (MIRA 17:1)

VIETSEL', U.S.S.R. and Agr Sci--(disc) "Raw material bases of
the logging industry in Kostromskaya Oblast and ¹⁹⁷¹ways of their
rational utilization." Len, 1951. 15 pp (Min of Higher Educa-
tion USSR. Hon Order of Lenin Forestry Engineering Acad in
S.P. Kirov), 100 copies (E1,21-33, 116)

-156-

ACCESSION NR: AP4036524

S/0089/64/016/005/0413/0417

AUTHOR: Ventsel', P.

TITLE: Calculation of thermal reactors with plutonium reuse

SOURCE: Atomnaya energiya, v. 16, no. 5, 1964, 413-417

TOPIC TAGS: thermal reactor, plutonium reuse, natural uranium reactor, depleted uranium reactor, calculation

ABSTRACT: This article considers the steady state operation of a natural or depleted uranium reactor with partial return of the resultant plutonium into the fuel cycle. It also determines the optimum values for avoiding resonance absorption in U^{238} , the optimum moderator and fuel ratio, and the portion of plutonium to be returned into the fuel cycle. The dependence of the neutron multiplication coefficient on the above parameters is investigated and it is indicated that quantity k (multiplication coefficient) has a peak value. The experimental studies available indicated that water cooled moderated reactors or boiling water reactors can be operated with natural uranium (or its UO_2) and with partial addition of formed plutonium. No U^{235} enrichment facility is required. Extensive calculations

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indicate that a burnout of 10 Mwd/ton can be reached. Upon return of plutonium into the cycle, burnout can be raised considerably in natural uranium reactors with graphite or heavy water moderators. Here, even depleted uranium can be used. The method is also applicable to the uranium-thorium cycle. "Gratitude is expressed to Prof. Dr. Shteynbek for outlining the work and discussing it, and to Dr. Fuks for his valuable suggestions." Orig. art. has: 1 figure, 21 formulas, no tables.

ASSOCIATION: VEB Atomkraftwerk, Betriebsteil Berlin-Pankow GDR(VEB Power Plant, Berlin-Pankow Division)

SUBMITTED: 06Apr63

DATE ACQ: 03Jun64

ENCL: 00

SUB CODE: NP

NO REF SOV: 003

OTHER: 006

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<p>Problems in preparing better tincture with weaker alcohol. A. M. Kleshnya and P. Yu. Ventsel, <i>Farmatsiya</i> 4, No. 11/12, 31-3(1941).—Bitter tincture can be made with 30-40% (instead of 70%) EtOH without loss in quality. It should be judged on appearance, bitterness, kind and concn. of extractives, amt. and strength of EtOH and sp. gr. Comparison of tinctures made with 70 and 30% EtOH showed ds 0.907, 0.880; solids 3.81, 4.48%; ash 0.12, 0.45%; color greenish, yellowish (less chlorophyll) with weaker EtOH; odor and taste, no difference.</p> <p>Julian F. Smith</p>																																																																																																																																																																																																											
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VENTSEL', S.V., doktor tekhn.nauk, prof.

Reviews and bibliography. Vest.mashinostr. 44 no.12:82-83 D '64.
(MIRA 18:2)

VENTSEL', S.V., doktor tekhn.nauk, prof.

Important factor in modeling working conditions of oil in
internal combustion engines. Vest.mashinostr. 42 no.9:31-34
S '62. (MIRA 15:9)

(Gas and oil engines--Lubrication)

VENTSEL', S.V., Doc Tech Sci -- (diss) "Study of the wear of internal combustion engines in connection with oil-aging processes." Khar'kov, 1959, 24 pp (Acad Sci UkSSR. Inst of Construction Mechanics) 110 copies. List of author's works p. 24 (12 titles) (KL, 33-59, 117)

- 18 -

69976

S/020/60/131/05/03/069

16.3500

AUTHOR: Ventsel', T.D.

TITLE: A Free Boundary Problem for the Heat Equation

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 5, pp. 1000-1003

TEXT: Problem: Determine functions $u(x, t)$ and $s(t)$ so that $s(t)$ for $t \geq 0$ is defined and continuous, $s(0) = 0$, $s(t) > 0$ for $t > 0$, while $u(x, t)$ in $D\{0 < x < s(t), 0 < t < T\}$ satisfies the equation

$$(1) \quad \frac{\partial^2 u}{\partial x^2} = \frac{\partial u}{\partial t},$$

in \bar{D} it is continuous together with $\frac{\partial u}{\partial x}$ and

$$(2) \quad u|_{x=0} = f_1(t), \quad u|_{x=s(t)} = f_2(t), \quad \frac{\partial u}{\partial x}|_{x=s(t)} = g(t).$$

Existence theorem: Let $f_1, f_2, g \in C^2$, $f_1 \leq 0$, $f_2 \leq 0$, $g > 0$, $f_1(0) + f_2(0) = 0$, $f_2 - f_1 > 0$ for $t > 0$,

$$(3) \quad f_1' \leq 0, \quad f_2' \leq 0,$$

$$(4) \quad f_2'' \geq 0, \quad (f_2 - f_1)' \geq 0, \quad g' \leq 0.$$

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69976

A Free Boundary Problem for the Heat Equation

3/020/60/131/05/03/069

Then there exists a solution of the problem, where u , $\frac{\partial^2 u}{\partial x^2}$, $\frac{\partial u}{\partial t}$ are continuous

in \bar{D} ; $s(t)$ is differentiable and $\frac{\partial s}{\partial t} \geq 0$.

Uniqueness theorem: The solution $u(x, t)$, $s(t)$ is unique if u , $\frac{\partial^2 u}{\partial x^2}$, $\frac{\partial u}{\partial t}$ are

continuous in \bar{D} ; $s(t)$ is differentiable, $\frac{\partial s}{\partial t} \geq 0$, the functions f_1, f_2, f'_1, f'_2, g are continuous and satisfy the conditions (3).

The author mentions Professor O.A.Oleynik.

There is 1 Soviet reference.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

PRESENTED: December 16, 1959, by I.G.Petrovskiy, Academician

SUBMITTED: December 10, 1959

Card 2/2

VENTSEL' S.V.

USSR/Chemical Technology - Chemical Products and Their I-13
Application. Treatment of Natural Gases and Petroleum.
Motor Fuels. Lubricants.

Abs Jour : Ventsel' S.V.

Title : Structure and Lubricating Action of Spent Motor Oils

Orig Pub : Kolloid. zh., 1953, 15, No 5, 331-333

Abstract : No abstract.

Card 1/1

- 261 -

AUTHOR	VENTSEL', S.V.	PA - 2167
TITLE	On the Composition of Admixtures in Used Motor Oils. (Sostav mekhanicheskikh primesey v rabotavshikh motornykh maslakh).	
PERIODICAL	Izvestia Akad.Nauk SSSR, Otdel.Tekhn., 1957, Nr 1, pp 153-156 (U.S.S.R.)	
	Received 3/1957	Reviewed 4/1957
ABSTRACT	<p>An X-ray structural analysis of floating particles which had been taken from already used motor oils was made. The particles were filtrated analytically and then processed chemically by means of pure piridium. This was done in order to increase the relative content of unorganic components and thus to obtain a maximum distinctness in the Debgegrams. The oil samples were taken from the oil sumps of tractor-motors.</p> <p>Conclusions. 1) The basic unorganic component of the mechanic admixtures of used oils is α-iron. 2) The largest metal particles are covered with a visible layer of ferric oxide of a thickness of 460 ± 720 A. 3) There are several reasons for assuming that these layers mainly consist of γ-oxydes of iron. (1 table and 2 illustrations)</p>	
ASSOCIATION	Not given	
PRESENTED BY		
SUBMITTED	16. 6. 1956	
AVAILABLE	Library of Congress	
Card	1/1	

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859410018-4

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859410018-4"

VENTSEL', S.V., kandidat tekhnicheskikh nauk.

Operating life of lubricants in automobile and tractor engines.
Vest.mash.35 no.9:21-23 S '55. (MLRA 9:1)
(Automobiles--Lubrication) (Tractors--Lubrication)

VENTTSEL', M.K., professor; VITMAN, A.I., redaktor; SHLENSKIY, I.A.,
tekhnicheskiy redaktor

[Spherical trigonometry; a short course] Sfericheskaya trigonometriya;
kratkii kurs. Izd. 2-oe, ispr. i dop. Moskva, Izd-vo geodez. i
kartogr. lit-ry, 1948. 153 p. (MLRA 9:12)
(Trigonometry, Spherical)

The same experiment, an engine was run for a period of 10 hours with the piston removed and a spring bearing on the piston. In spite of the fact that the combustion forces. Oxidation of the lubricant still took place with the latter arrangement and the quantity of asphaltic and resinous impurities produced was greater.

VENTSEL', S.V.

Composition of mechanical mixtures in used motor oils. Izv.AN SSSR.
Otd.tekh.nauk no.1:153-156 Ja '57. (MLRA 10:3)
(Lubrication and lubricants)

VENTSEL', S.V. (Khar'kov).

Microstructure of mechanical admixtures in engine lubricating oils.
Izv.AN SSSR, Otd. tekhnauk no.11:120-125 N '56. (MLRA 10:1)
(Lubrication and lubricants)

"APPROVED FOR RELEASE: 09/01/2001

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CIA-RDP86-00513R001859410018-4

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859410018-4"

VENTSEL', S.V., doktor tekhn.nauk, prof.; CHUPIS, N.M., dotsent

Using the method of ground holes in determining the wear of
machine parts. Vest.mashinostr. 43 no.8:29-30 Ag '63.
(MIRA 16:9)

(Mechanical wear--Testing)

VENTSEL', S.V., doktor tekhn. nauk, prof.; LELYUK, V.A., inzh.

Innovations in the running-in of machine parts. Izv. vuzov. Mashinostr. no. 5:55-60 '64. AMBA 18411

1. Khar'kovskiy inzhenerno-stroitel'nyy institut.

Адреса: Волосин, С.В.; Волосин, Н.П.; Лыченко, П.Н.; Адреса, П.А.; Волосин, С.В.

"APPROVED FOR RELEASE: 09/01/2001

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Engines operating with...

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859410018-4"

VENTSEL', S.V.; CHUPIS, N.M. [Chupys, M.M.]; LELYUK, V.A. [Leliuk, V.O.]

Effect of the oxidation of oil on the process of running-in the
ring-socket pair of internal combustion engines. Dop. AN URSR
(MIRA 17:5)
~~199-502~~ '64.

1. Khar'kovskiy inzhenerno-stroitel'nyy institut. Predstavleno
akademikom AN UkrSSR F.P.Belyankinym [Bieliankin, F.P.].

VENTSEL', S.V.; TELETOV, S.G.

Electrophoretic study of mechanical admixtures in motor oils.
Koll.shur. 16 no.5:322-324 S-O '54. (MLRA 7:11)
(Oil analysis) (Cataphoresis)

VENTSEL', S. V.

RJ-15h [Structure and lubricating action of used motor oils] Struktura i
smazochnoe deistvie otrabotannykh motornykh masel.
Kolloidnyi Zhurnal, 15(5): 331-333, 1953

VENTSEL', S.V.

Lubricating effect of used oils. Tren. i isn.mash. no.9:84-90 '54.
(MIRA 7:9)

(Lubrication and lubricants) (Oil reclamation) (Mechanical wear)

VENTSEL, S.V.

Chemical Abst.
Vol. 48 No. 9
May 1954
Petroleum, Lubricants, and Asphalt

①
Used lubricant oils. S. V. Ventsel.
S.V. 14, 337-43 (1952) Eng. 1000
47, 1929.

8-31-54
ggg

1. VENTSEL', S. V.
2. USSE (600)
4. Lubrication and Lubricants
7. Investigation of used lubricants. Koll. zhur. 14 no. 5, '52.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

VENTSEL', S.V., kandidat tekhnicheskikh nauk, dotsent.

Deterioration of motor oil and the abrasive wear of internal combustion
engines. Vest.mash. 33 no.5:26-28 May '53. (MLRA 6:5)
(Gas and oil engines)

VENTSEL', S.V.

Lubrication and Lubricants

Testing methods for lubricants in engines. Vest. mash. 32 no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress. October, 1952. UNCLASSIFIED

VENTOEL, S. V.

Chem Abs V48

1 - 25-54

Petroleum

✓ Structure and lubricating action of used motor oils.
S. V. Ventsel. *Kolloid. Zhur.* 15, 331-3 (1953).—The
ultraviolet light absorption of used and then filtered motor
oils is identical with that of fresh oils. The filter residue
of used oils was sepd. into org. (a) and inorg. (b) parts.
The wear prevention (in a Diesel motor) of used oils was
greater the greater the ratio a:b. At the same value of
a:b, the wear prevention by a fresh oil was almost equal to
that by used oils. The org. impurities render the inorg.
particles innocuous.
J. J. Bikerman

fuels ①

5-2
JJB

Ventsel', S. V.
USSR/Chemistry - Lubricants

FD-3238

Card 1/1 Pub. 41-19/22

Author : Ventsel', S. V. Khar'kov

Title : The contact effect as a factor in the oxidation of oil in
 internal combustion engines

Periodical : Izv. AN SSSR, Otd. Tekh. Nauk 7, 139-144, Jul 55

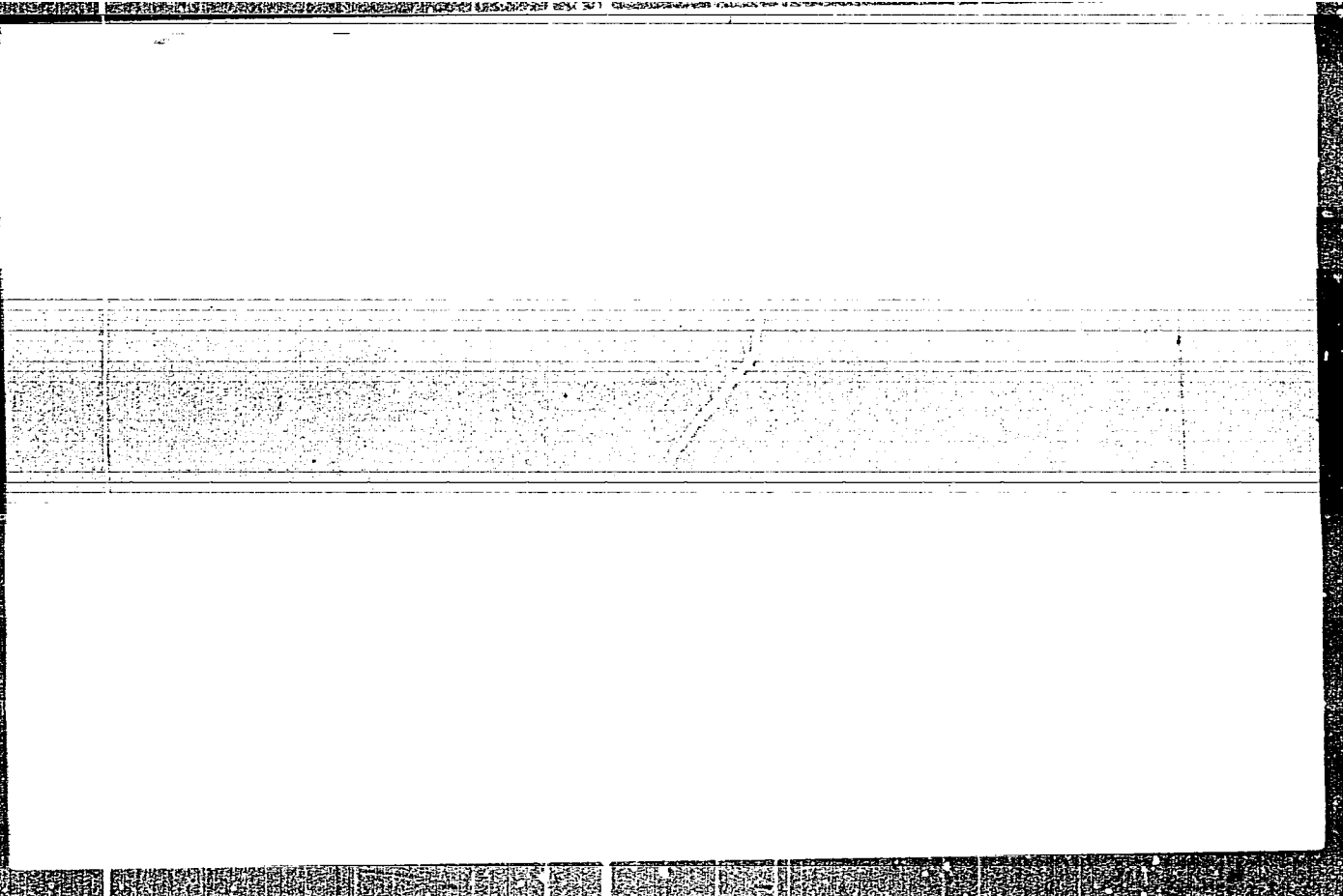
Abstract : Describes apparatus for analytical tests with machine oil Su
 (GOST 1707-42), aviation oil MS-14, and motor oil ASP-5
 (additives according to GOST 5303-50). Concludes that the
 contact effect accelerates oxidation of motor oils and suggests
 that test results can be utilized for development of lubrication
 systems, improving methods of reclaiming used oils, and standard-
 izing laboratory oxidation ratings for motor oils. One illustra-
 tion; 1 graph; 3 tables. Seven references, all USSR.

Institution :

Submitted : 18 January 1955

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CIA-RDP86-00513R001859410018-4

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859410018-4"

BRANDT, N.B.; VENTSSEL', V.A.

Effect of universal compression on oscillation of the magnetic susceptibility of bismuth at low temperatures [with summary in English]. Zhur. eksp. i teor. fiz. 35 no.5:1083-1087 N '58.
(MIRA 12:3)

1. Moskovskiy gosudarstvennyy universitet.
(Bismuth--Magnetic properties)
(Low temperature research)

VENTSIL, V.A.

ROSE, S.; LAMBERTSCH, G.F.; FINESTAD, I.; MINTO, V.A.

Antineutrinos obtained from antiprotons in collisions with charged pions.
Phys. Rev. D 26:156-160 1982. (1982:1:1)
(Neutrons) (Protons)

VENTSEL, S.V.

① Prop

4

Fuel Abst.
Vol. 15 No. 4
Apr. 1954
Other Prime Movers

3088. AGEING OF OIL AND ABRASIVE WEAR OF INTERNAL COMBUSTION ENGINES
Ventsel, S.V. (Vestn. Mashin. (mach. Ind. Bull., Moscow), 1953, vol. 33,
(5), 26-28; abstr. in Chem. Abstr., 1953, vol. 47, 10829, 10830). Samples
of lubricating oil taken from various internal combustion engines (aviation,
tractors, locomotives, stationary, etc.) were filtered and then subjected to
extensive tests along with unfiltered and fresh oil samples. The properties
of used oil before filtration differed greatly from those of fresh oil;
however, the removal of mechanical impurities (by filtration) decreased
these differences. Thus, the acid numbers of used oils increased by
53-230% and the saponification value by 210-155% compared to fresh oil.
Filtration reduced the difference in the acid numbers to 23-40% and reduced
the saponification values 2.5 times. The molecular weights before and after
filtration did not change. Absorption spectra of fresh and filtered oils
were very close, indicating that the change in chemical composition was
insignificant. Filtration residues were dried and divided into 2 lots, one
of which was analysed and the other placed for 7 days in strong hydrochloric
acid at 30° after which they were filtered, washed, dried, and analysed.
The difference in the analyses was very small. Microscopic analyses of used
oils showed the amber background of oil interspersed with black particles of
mechanical admixtures. The particles formed aggregates, their quantity
depending on the length of service of an oil. The results are taken to
show that the organic products of oil deterioration are adsorbed on metal
particles derived from engine wear and are removed by filtration. It is
suggested that accumulation of these carbon compounds in the oil even
improves to some extent the lubricating qualities of an oil. While oil
should be changed periodically, primarily to prevent clogging of passage by
solid particles, it should not be changed too frequently.

C.A.

J. A. 59

VENTSEL', S.V.

Structure and lubricatory effect of motor waste-oil. Koll.zhur. 15 no.5:
331-333 '53. (MLBA 6:9)

(Lubrication and lubricants)

USSR/Chemistry - Lubricating Oils Sep/Oct 53

"Structure and Lubricating Effect of Used Motor Oils," S. V. Ventsel', Khar'kov

Ko'l Zhur, Vol 15, No 5, pp 331-333

On the basis of the results described, indicates that the mechanical admixtures in used lubricating oil have a multicomponent structure and that the metal particles are covered with protective colloids. Suggests that the ratio of the quantity of organic impurities to the quantity of inorganic impurities may serve as an index of the quality of lubricating oil.

270715

VENTSEL', S.V.; IELYUK, V.A.

Antifriction properties of used mineral lubricating oils.
Koll. zhur. 26 no.5:562-566 S-O '64.

(MIRA 17:10)

1. Khar'kovskiy inzhenerno-stroitel'nyy institut.

VENTTSEL', M.K.

~~VENTTSEL', M.K.~~
Brief outline history of practical astronomy in Russia and the
U.S.S.R. (development of methods for the determination of time
and latitudes). Ist.-astron. issl. no.2:7-137 '56. (MLRA 10:6)
(Astronomy, Spherical and practical--History)

VENTSEL', T.D.

MIRANDA, Carlo; VENTSEL', T.D. [translator]; OLEINIK, O.A., red.;

[Equations with partial derivatives of the elliptical type.
Translated from the Italian] Uravneniia s chastnymi proizvodnymi
ellipticheskogo tipa. Perevod s ital'ianskogo T.D.Venttsel'.
Pod redaktsiei O.A.Oleinik. Moskva, Izd-vo inostrannoi lit-ry,
1957. 256 p. (MIRA 11:6)
(Differential equations, Partial)

VENTSEL', T.D.

Certain quasilinear parabolic systems. Dokl. AN SSSR 117 no.1:21-24
M-D '57. (MIRA 11:3)

1. Predstavleno akademikom I.G.Petrovskim.
(Differential equations, partial)

S/181/62/004/002/030/051
B101/B102

AUTHORS: Likhter, A. I., and Ventsel', V. A.

TITLE: Hall effect in cerium during a phase transition of the first kind

PERIODICAL: Fizika tverdogo tela, v. 4, no. 2, 1962, 485 - 489

TEXT: A study has been made of the phase transition accompanied by an abrupt change in volume of Ce at pressures of up to 10,000 atm and at room temperature by measuring both the Hall emf and the resistance. The apparatus used for the purpose was similar to that described by A. I. Likhter and T. S. D'yakonova (FTT, 1, 95, 1959). The Hall emf was measured with an Φ -12 (F-12) photoelectric amplifier. The Ce specimen (7.5·2·0.12 mm) contained 0.02% Fe, < 0.75% Nd + Pr, and < 0.001% Cd + Pb + Bi + Sn. X-ray analysis showed no hexagonal phase in the specimen. Pure gasoline was used for pressure transmission. A sudden drop of the Hall emf was found between 7600 and 8000 atm. With decreasing pressure the transition likewise occurred in the same pressure range. The transition point was not shifted by a 100-fold rise or drop of pressure. At atmospheric pressure, the Hall coefficient A_p was $(2.0 \pm 0.05) \cdot 10^{-4} \text{ cm}^3/\text{coulomb}$. As the

Card 1/2

Hall effect in cerium during a ..

S/181/62/004/002/030/051
B101/B102

magnetic field was non-uniform, the ratio A_p/A_0 was used, where A_0 is the value obtained by F. K. Speeding et al. (Phys. Rev., 91, 1372, 1953). A constant value of 0.25 A_0 was reached at 10,000 atm. A discussion on the basis of data concerning the conductivity of rare-earth metals indicates that the Hall coefficient is changed by the transition of a 4f electron into 5d shell. A phase transition induced by pressure and at room temperature is more complete than one induced by cooling. L. F. Vereshchagin, Corresponding Member AS USSR, is thanked for a discussion. There are 1 figure, 1 table, and 12 references: 5 Soviet and 7 non-Soviet. The four most recent references to English-language publications read as follows: R. D. Beecroft, C. A. Swenson, J. Phys. Chem. Solids, 15, 234, 1960; J. M. Lock, Proc. Phys. Soc. (London), B70, 566, 1957; M. K. Wilkinson, Phys. Rev., 122, 1409, 1961; C. J. McHargue, H. L. Jakel, Jr., Acta Met., 8, 637, 1960.

ASSOCIATION: Institut fiziki vysokikh davleniy AN SSSR, Moskva (Institute of High-pressure Physics, AS USSR, Moscow)

SUBMITTED: September 25, 1961
Card 2/2

VENTSEL', T.D. (Moskva).

Application of the finite difference method to the solution of the
first boundary value problem for equations of the parabolic type.
Mat.sbor.40 no.1:101-122 S '56. (MIRA 9:12)
(Differential equations, Partial) (Difference equations)

VENTSEL, V.

Ventsel, V. "Concerning the Interpretation of Geophysical Data in Oil Exploration."
Nefteknicheskoe Khoziaistvo, Moscow, No. 7, 1939, pp. 20-23.

VENTSEL', Yelena Sergeyevna

Elementy teorii igr. Moskva, Fizmatgiz, 1959.

66 p. diagrs. (Formulyarnyye Lektsii po Matematike,
vyp: 32)

VENTSELI, Yelena Sergeyevna, GUTCHENIA, N.Ya., red.

[Introduction to the calculus of operations] Vvedenie v
issledovanie operatsii. Moskva, Sovetskoye radio, 1964.
287 p. (MIRA 17:9)

VENTSEL', Yelena Sergeyevna, SHIROKOVA, S.A., red.; BRUDNO, K.F.,
tekhn. red.

[Probability theory] Teoriia veroiatnostei. Izd.2., perer.
i dop. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1962. 564 p.
(MIRA 15:4)

(Probabilities)

VENTTSEL', Ye.S., prof., doktor tekhn.nauk

Generalization of equations and Erlang's formulas for a mass service system of a mixed type with a limited waiting period. *Mat.sbor.* 44 no.1:43-49 Ja '61. (MIRA 14:3)
(Communication science) (Probabilities)

VENTTSEL', Ye.S. (Moskva)

Problems and basic principles of the theory of games. Mat.v
shkole no.4:3-20 JI-Ag '62. (MIRA 15:11)
(Games, Theory of)

VENTTSEL', Yelena Sergeyevna; BAYEVA, A.P., red.

[Elements of dynamic programming] Elementy dinamicheskogo programmirovaniia. Moskva, Izd-vo "Nauka," 1964.
173 p. (MIRA 18:2)

ACC NR: AP6035496

(A)

SOURCE CODE: UR/0198/66/002/010/0083/0090

AUTHOR: Vinokurov, L. P. (Khar'kov); Ventsel', E. S. (Khar'kov)

ORG: Khar'kov Civil Engineering Institute (Khar'kovskiy inzhenerno-stroitel'nyy institut)

TITLE: Problem on contact of shallow cylindrical shells with plates

SOURCE: Prikladnaya mekhanika, v. 2, no. 10, 1966, 83-90

TOPIC TAGS: ~~cylindrical shell~~, shallow cylindric shell, plate stiffened shell, finned cylindric shell, cylindric shell structure, shell deformation, reinforced shell structure, contact stress

ABSTRACT: The deformation of shallow cylindrical shells stiffened along the generatrices on their outer surface by plates normal to the middle surface is investigated. The loading of the shell skin is considered as consisting of the given external loading of the shell and an additional loading due to the joints of the shell with plates. The displacements and moments in the shell along the line of contact are analyzed by using the equations of the V. Z. Vlasov engineering shell theory modified in accordance with the contact conditions. Using the conditions of the joint deformation of the shell-plate system, the displacements in the middle surface of the shell are expressed through the displacements along the contact edge of the plate, and the derivation and use of expressions for determining the reactive loading (the normal and longitudinal components of the plate resistance) are indicated, assuming that the reactive contact stresses are constant across the plate

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ACC NR: AP6035496

thickness. The method is illustrated by a sample analysis of a simply supported shallow cylindrical shell joined with a longitudinal plate. A uniform normal load is applied to the shell only. A discrete variational method combined with the Bubnov-Galerkin method is used in determining the displacements and bending moments in the plate-stiffened shell. The distribution of moments along the line of the plate-shell contact is given in diagrams and compared with the moments in a plain shell under identical conditions. Orig. art. has: 2 figures and 26 formulas.

SUB CODE: 20/ SUBM DATE: 20Jun66/ ORIG REF: 003/

Card 2/2

VENTSENOV, V.

Parachutes in space technology. Kryn. red. 16 no. 12 (p. 165).
(MIR: 18 12)

SULKHANOV, Petr Petrovich; VENTSENOSTSEV, Yuriy Nikolayevich; KARAVASHKIN,
S.I., red.; MEL'NIKOVA, A.G., red. izd-va; VDOVINA, V.M., tekhn.
red. (MIRA 14:10)

[Mechanization of riparian log dumps] Opyt mekhanizatsii rabot na
prirechnykh lesnykh skladakh. Moskva, Goslesbumizdat, 1960. 46 p.
(Lumbering—Equipment and supplies)

VENTISKEVICH, G. Z. Cand. Biolog. Sci.

Dissertation: "The Investigation of the Laws Governing the Growth of Plants." Inst of Physiology of Plants imeni K. A. Timiryazev, Acad Sci USSR, 11 Mar 47.

SO: Vechernyaya Moskva, Mar, 1947 (Project #17836)